

STUDIES IN THE EUPATORIEAE (ASTERACEAE). LXXIV.

NEW SPECIES OF CRITONIA, FLEISCHMANNIA AND HEBECLINIUM.

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The revised classification of the Eupatorieae has greatly simplified the identification of specimens and has facilitated the recognition of previously undescribed species. Four new species, belonging to the following three genera, are described here.

Critonia dominicensis R.M.King & H.Robinson, sp. nov. Frutices ca. 2 m alti laxè ramosi. Caules teretes vel obscure angulati glabri. Folia opposita longè petiolata, petiolis 1.5-2.0 mm longis; lamina anguste lanceolata 12-20 cm longa 3-5 cm lata glabra distinctè punctata longè attenuata remote serrulata base anguste cuneata, nervis pinnatis secundariis utrinque 6-7. Inflorescentiae dense corymbosae; pedicelli glabri. Capitula 3-6 fasciculata ca. 6 mm alta; flores 5; involucri squamae ca. 20, imbricatae 4-5-seriatae valde inaequilongae interiores anguste oblongae facile deciduae glabrae; corollae anguste tubulares ca. 3.5 mm longae glabrae, lobis longè triangularibus; appendices antherarum vix longiores quam latae; appendices stylarum lineares; achaenia temeriter setifera, late costata, basi angustata; pappi setae ca. 35 ad apicem leniter dilatatae. Grana pollinis ca. 20 $\mu$  diam.

Type: DOMINICA: British West Indies: Fond Baron Estate. Abundant shrubs ca. 2 m. tall, shade, flowers all past anthesis. 18 December 1967. Robert Merrill King 6301. (Holotype US !).

The species is in the group with Critonia dalea but the long attenuate leaf apex is very distinctive. The following species should also be added to the genus Critonia though the anther appendage is somewhat shorter.

Critonia platychaeta (Urban) R.M.King & H.Robinson, comb. nov. Eupatorium platychaetum Urban, Notizbl. Bot. Gart. Berlin 8: 23. 1921. Jamaica.

Fleischmannia cuatrecasasii R.M.King & H.Robinson, sp. nov. Plantae herbaceae vel suffrutescentes erectae usque ad 3 dm altae, pauce vel multo ramosae in sicco olivaceae vel atratiore. Caules teretes puberuli. Folia opposita vix petiolata, petiolis 1-2 mm longis; lamina linearis elliptica usque ad 2.7 cm longa, 0.3 cm lata, remote pauce serrulata ad apicem anguste obtusa base anguste cuneata trinervata, supra subglabra, subtus in nervis et marginem minute puberula. Inflorescentiae laxae cymosae; pedicelli puberuli 2-5 mm longi. Capitula 3.5 mm alta; flores ca. 20; involucri squamae 20-25 subimbricatae triseriatae inaequilongae interiores ca. 2.5 mm longae, anguste oblongae, breviter acutae vel oblongae, base distincte callosae; corollae anguste infundibulares 1.5-1.7 mm longae, extus inferne glabrae, lobis equilateraliter triangularibus extus saepe pauce breviter setiferis; thecae antherarum 0.5-0.7 mm longae; appendices parvae vix longiores quam latae superne crenulatae; achaenia glabra vel perpaucis setifera; carpodia valde tumescentia latiora quam longa; pappi setae ca. 25. Grana pollinis 18-20 $\mu$  diam.

Type: COLOMBIA: Valle del Cauca: Quebrada La Brea, near Cordoba. Flowers pink. November 7, 1944. Earl L. Core 1549 (Holotype US!). Paratypes El Valle: Rio Calima: Quebrada de La Brea. Alt. 30-40 m. May 1946 Richard Evans Schultes & Mardoqueo Villarreal 7359 (US!). Valle: Rio Calima (region del Choco): entre Pailon y El Coco. 50 met. alt. 23 Mayo 1946. J. Cuatrecasas 21245 (Facultad de Agronomia del Valle !).

The species is related to F. misera of the Choco but is distinct by the more erect habit, narrower more remotely serrulate margins, darker color and firmer texture of the leaves. According to Dr. Cuatrecasas the species occurs in a distinctive ecological niche in the region largely lacking composites in the pacific lowlands of Colombia, a zone inland from the outer coastal zone where the Eupatorian genus Tuberosyles is found.

Hebeclinium reedii R.M.King & H.Robinson, sp. nov. Suffrutices erecti. Caules teretes dense longe hirsuti. Folia opposita longe petiolata, petiolis 3-4 cm longis; lamina late ovata usque ad 12 cm longa, 8 cm lata, distincte breviter acuminata duplo-serrata basi late cuneata supra in nervis breviter hirsutis,

subtus in nervis et nervulis hirsutis, nervis pinnatis secundariis utrinque ca. 4-5, ca. 45° ascendentibus. Inflorescentiae laxae cymosae; pedicelli breviter hirsuti. Capitula plerumque 3-fasciculata, ca. 6 mm alta; flores 20-25 albi; involucri squamae ca. 40 imbricatae quadriseriatae valde inaequilongae anguste oblongae obtusae superne puberulae; receptacula convexa ubique sclerotica pilosa; corolla anguste infundibulares ca. 3 mm longa intus glabra, lobis breviter triangularibus extus dense setiferis, setis brevibus; appendices antherarum vix longiores quam latae; achaenia glabra; pappi setae ca. 25 ad apicem distincte breviter dilatatae. Grana pollinis 18-20 $\mu$  diam.

Type: PANAMA: Darien: Cerro Pirre. Matita, flores blancas, sin olor. 11 de Abril 1967. Narciso Bristan 464. (Holotype US!).

The species is apparently closest to Hebeclinium phoenicticum of adjacent Colombia but leaves of the latter are more nearly entire or slightly crenulate with undersurface more densely pubescent. The petioles of the latter species are generally shorter and thicker and the phyllaries are narrower at the tips and more sparsely pubescent.

We take great pleasure in naming this new species for Dr. Clyde F. Reed of Baltimore, Maryland who very generously donated the type specimen to the United States National Herbarium.

Hebeclinium costaricense R.M.King & H.Robinson, sp. nov. Hebeclinio reedii simile sed caulibus minus pubescentibus, foliis minus acuminatis, laminis 9-16 cm longis 6-9 cm latis margine leniter crenulatis, subtus in nervulis hirtellis, receptaculis magis convexis, floribus ca. 40 in capitulo, achaeniis pauce glanduliferis.

Type: Costa Rica:Alajuela. Near La Laguna, 6 to 8 km. south of Villa Quesada. Alt. 1200 m. Feb. 19, 1966. Flowers white, herb 1.5 meters tall. Cut over forest area, mountains. Antonio Molina R., Louis O. Williams, William C. Burger & Bruce Wallenta 17545. (F !). Paratype Costa Rica. Cataratas de San Ramon.. February 28, 1931. A.M. Brenes 13564 (F !).

The new species is clearly distinct from either of the two species of Hebeclinium previously known

from Costa Rica. From H. macrophyllum, the new species differs most obviously by the broadly cuneate rather than cordate leaf-base and by the broader tipped less glaucous phyllaries. Hebeclinium hygroyaeum (B.L. Robinson) R.M.King & H.Robinson has longer elliptical leaves with nearly entire margins. The new species is actually most closely related to H. reedii described above from eastern Panama. The panamanian species is most easily distinguished by the closely doubly serrate leaf margin but differs more significantly in the less convex receptacle bearing fewer flowers and by the glabrous achene.

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